

## REMARKS

This Amendment and Response is submitted in reply to the Office Action dated September 15, 2006, in which the Examiner:

rejected claims 8, 13 and 15 under 35 U.S.C. § 112, second paragraph, as indefinite;

rejected claims 1-5, 9-11, 13-14 and 16-18 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent Application Publication No. 2004/0011484 to Saviharju et al. in view of WIPO Publication WO 93/11297 to Kuusio et al. and U.S. Patent No. 5,226927 to Rundstrom;

rejected claims 6-8, 14-15 and 19-27 under 35 U.S.C. § 103(a) as unpatentable over Saviharju in view of Kuusio and Rundstrom, and further in view of U.S. Patent No. 4,627,173 to O'Hagan et al.; and

rejected claim 12 under 35 U.S.C. § 103(a) as unpatentable over Saviharju in view of Kuusio and Rundstrom, and further in view of U.S. Patent No. 5,103,743 to Berg.

Applicant respectfully addresses and / or traverses the rejections below. Claims 1-27 are currently pending. The current Amendment amends claims 1, 8, 9, 13, 15 and 19, and adds new claims 28-31, leaving claims 1-31 pending upon entrance of the current Amendment. Claims 1, 9 and 19 are independent claims.

The Specification was objected to based on the reference to particular claim numbers in the Specification. The Specification has been amended to remove any such references. Accordingly, Applicant respectfully requests that the objection to the Specification be withdrawn.

Claims 8, 13 and 15 were rejected under 35 U.S.C. § 112, second paragraph, as indefinite, based on the recitation of a broader range together with a narrower range. The alternate ranges recited by these claims have been removed and included in new claims 28-31. Accordingly, Applicant respectfully requests that the rejection of claims 8, 13 and 15 under 35 U.S.C. § 112, second paragraph, be withdrawn.

Claims 1 and 9 were rejected under 35 U.S.C. § 103(a) as unpatentable over Saviharju in view of Kuusio and Rundstrom. A rejection under § 103 is improper unless the Examiner established a prima facie case of obviousness. A prima facie case of obviousness is not established unless the prior art references, alone or in combination, teach or suggest each and every claim recitation.

Applicant's amended claim 1 recites a process for production of energy in a pulp mill, according to which process a waste liquor of a cellulose pulp digestion liquor is concentrated, and this concentrated liquor is burned in a soda recovery boiler in the presence of biogenic fuels, thermal energy of flue gases obtained from the burning being recovered, wherein the biogenic fuel used is bark or other similar wood waste, which is dried to a moisture content below 30%, whereafter it is gasified to produce a fuel gas that is fed, at least in part, into the soda recovery boiler substantially continuously during the burning of the concentrated liquor in the soda recovery boiler.

Applicant's amended claim 9 recites a process for producing energy in a sulfate pulp mill, according to which process wood material used for pulp production is in part digested in cooking liquor to separate fibers from each other, the digested wood material is extracted as black liquor from the separated fibers, the black liquor is concentrated by evaporation, and the concentrated liquor is burned in a soda recovery boiler to regenerate cooking chemicals and to produce heat and electricity by using biogenic fuels, wherein solid biogenic fuel is brought into a gaseous form, formed ash is separated, a significant proportion of the gas is burned in the same boiler, equipped with heat recovery, as the concentrated liquor, and the gas is burned substantially continuously during the burning of the concentrated liquor in the soda recovery boiler.

Saviharju does not teach or suggest each and every recitation of Applicant's amended claims 1 or 9. For instance, Saviharju does not teach or suggest burning a gasified biogenic fuel substantially continuously during the burning of the concentrated liquor in the soda recovery boiler.

Kuusio does not add to the teachings of Saviharju, at least in that Kuusio also does not teach or suggest burning a gasified biogenic fuel

substantially continuously during the burning of the concentrated liquor in the soda recovery boiler. Instead, Kuusio teaches gasifying a portion of the waste liquor. (See, e.g., Kuusio, p. 6, lines 1-22.) The gasification of waste *liquor* does not teach or suggest the gasified biogenic fuel of Applicant's claims 1 or 9, which is gasified "bark or other similar wood waste" (claim 1), or gasified "solid biogenic fuel" (claim 9).

Additionally, Kuusio does not teach or suggest that the gasified waste liquor is burned substantially continuously in the recovery boiler with concentrated waste liquor. Instead, Kuusio teaches that "...the gas can be used as a *starting* fuel in the waste liquor recovery boiler...." (Kuusio, p. 10, line 37 – p. 11, line 1; emphasis added.) Use of the gasified waste liquor as a *starting* fuel does not teach or suggest substantially continuous burning.

Rundstrom does not add to the teachings of Saviharju and Kuusio, at least in that Rundstrom also does not teach or suggest burning a gasified biogenic fuel substantially continuously during the burning of the concentrated liquor in the soda recovery boiler. In fact, Rundstrom does not appear to include any teachings concerning the use of its wood gasifier in connection with pulp mills, and thus, does not teach or suggest anything about where or how its wood gasifier would be employed in connection with energy production in pulp mills.

Thus, neither Saviharju nor Kuusio nor Rundstrom, nor the combination thereof, teaches or suggests each and every recitation of Applicant's amended claims 1 or 9. Accordingly, Applicant respectfully submits that the rejection of claims 1 and 9 under 35 U.S.C. § 103(a) as unpatentable over Saviharju in view of Kuusio and Rundstrom is improper for at least this reason, and should be withdrawn.

Claims 2-5, 10-11, 13, 14 and 16-18 were also rejected under 35 U.S.C. § 103(a) as unpatentable over Saviharju in view of Kuusio and Rundstrom. These claims all depend, directly or indirectly, from one of Applicant's independent claims 1 or 9 and include additional recitations thereto. Accordingly, Applicant respectfully submits that the rejection of claims 2-5, 10-11, 13, 14 and 16-18 under 35 U.S.C. § 103(a) as unpatentable over

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Saviharju in view of Kuusio and Rundstrom is improper for at least the reasons stated in connection with claims 1 and 9, and should be withdrawn.

Claims 6-8, 14 and 15 were rejected under 35 U.S.C § 103(a) as unpatentable over Saviharju in view of Kuusio and Rundstrom, and further in view of O'Hagan. Claims 6-8, 14 and 15 all depend, directly or indirectly, from one of Applicant's independent claims 1 or 9 and include additional recitations thereto. As stated in connection with claims 1 and 9, neither Saviharju nor Kuusio nor Rundstrom, nor the combination thereof, teaches or suggests each and every recitation of Applicant's amended claims 1 or 9.

Applicant respectfully submits that O'Hagan does not remedy the deficiencies of Saviharju, Kuusio and Rundstrom as applied to claims 1 or 9, at least in that O'Hagan also does not teach or suggest burning a gasified biogenic fuel substantially continuously during the burning of the concentrated liquor in the soda recovery boiler.

Thus, neither Saviharju nor Kuusio nor Rundstrom nor O'Hagan, nor the combination thereof, teaches or suggests each and every recitation of Applicant's independent claims 1 or 9. Accordingly, Applicant respectfully submits that the rejection of dependent claims 6-8, 14 and 15 under 35 U.S.C. § 103(a) as unpatentable over Saviharju in view of Kuusio and Rundstrom, and further in view of O'Hagan, is improper for at least this reason, and should be withdrawn.

Claim 19 was rejected under 35 U.S.C § 103(a) as unpatentable over Saviharju in view of Kuusio and Rundstrom, and further in view of O'Hagan. Applicant's amended claim 19 recites an apparatus for producing, from wood bark, a biogenic fuel gas to be fed into a recovery boiler of a pulp mill, the apparatus being connected to a feed unit of the recovery boiler, wherein it comprises as a combination a bark-drying unit having feed means for the bark to be dried and outlet means for the bark, and a dried-bark gasifier for producing fuel gas from the bark, the apparatus having feed means for bark and outlet means for fuel gas, the feed means of the gasifier being connected to the outlet means of the drying unit and the gas outlet means being connected to the feed unit of the recovery boiler to feed into the boiler the fuel

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gas produced from the bark by gasification substantially continuously during operation of the boiler.

Saviharju does not teach or suggest each and every recitation of Applicant's amended claim 19. For instance, Saviharju does not teach or suggest gas outlet means being connected to the feed unit of the recovery boiler to feed into the boiler the fuel gas produced from the bark by gasification substantially continuously during operation of the boiler.

Kuusio does not add to the teachings of Saviharju, at least in that Kuusio also does not teach or suggest gas outlet means being connected to the feed unit of the recovery boiler to feed into the boiler the fuel gas produced from the bark by gasification substantially continuously during operation of the boiler.

Rundstrom does not add to the teachings of Saviharju and Kuusio, at least in that Rundstrom also does not teach or suggest gas outlet means being connected to the feed unit of the recovery boiler to feed into the boiler the fuel gas produced from the bark by gasification substantially continuously during operation of the boiler.

O'Hagan does not add to the teachings of Saviharju, Kuusio and Rundstrom, at least in that O'Hagan also does not teach or suggest gas outlet means being connected to the feed unit of the recovery boiler to feed into the boiler the fuel gas produced from the bark by gasification substantially continuously during operation of the boiler.

Thus, neither Saviharju nor Kuusio nor Rundstrom nor O'Hagan, nor the combination thereof, teaches or suggests each and every recitation of Applicant's amended claim 19. Accordingly, Applicant respectfully submits that the rejection of claim 19 under 35 U.S.C. § 103(a) as unpatentable over Saviharju in view of Kuusio and Rundstrom, and further in view of O'Hagan, is improper for at least this reason, and should be withdrawn.

Claims 20-27 were also rejected under 35 U.S.C. § 103(a) as unpatentable over Saviharju in view of Kuusio and Rundstrom, and further in view of O'Hagan. These claims all depend, directly or indirectly, from independent claim 19 and include additional recitations thereto. Accordingly, Applicant respectfully submits that the rejection of claims 20-27 under 35

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U.S.C § 103(a) as unpatentable over Saviharju in view of Kuusio and Rundstrom, and further in view of O'Hagan, is improper for at least the reasons stated in connection with claim 19, and should be withdrawn.

Claim 12 was rejected under 35 U.S.C. § 103(a) as unpatentable over Saviharju in view of Kuusio and Rundstrom, and further in view of Berg. Claim 12 depends directly from claim 9 and includes additional recitations thereto. As stated in connection with claim 9, neither Saviharju nor Kuusio nor Rundstrom, nor the combination thereof, teaches or suggests each and every recitation of Applicant's amended claim 9.

Applicant respectfully submits that Berg does not remedy the deficiencies of Saviharju, Kuusio and Rundstrom as applied to claim 9, at least in that Berg also does not teach or suggest burning a gasified biogenic fuel substantially continuously during the burning of the concentrated liquor in the soda recovery boiler.

Thus, neither Saviharju nor Kuusio nor Rundstrom nor Berg, nor the combination thereof, teaches or suggests each and every recitation of Applicant's independent claim 9. Accordingly, Applicant respectfully submits that the rejection of dependent claim 12 under 35 U.S.C. § 103(a) as unpatentable over Saviharju in view of Kuusio and Rundstrom, and further in view of Berg, is improper for at least this reason, and should be withdrawn.

Having traversed or addressed each and every objection and claim rejection, Applicant respectfully requests that the objection to the Specification and the rejections of claims 1-27 be withdrawn, and claims 1-31 be passed to issue.

Applicant respectfully submits that nothing in the current Amendment constitutes new matter. Amendments to claims 1, 9 and 19 are fully supported by the original disclosure of the application. Amendments to claims 8, 13 and 15, and the new claims 28-31, address the 35 U.S.C. § 112, second paragraph, rejection of claims 8, 13 and 15, and are fully supported by the original claims 8, 13 and 15.

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Payment of the 37 C.F.R. § 1.17(a)(3) fee for four (4) additional dependent claims in excess of twenty (20) is submitted herewith. Applicant believes no additional fees are due in connection with this Amendment and Response. If any additional fees are deemed necessary, authorization is hereby granted to charge any such fees to Deposit Account No. 13-0235.

Respectfully submitted,

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